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PACKET TRADE HARD HIT.

New Passenger Regulations Affects Cape de Verde Fleet.

Copies of a new act passed by Congress relative to accommodations for passengers on all vessels coming into or going from parts of the United States have just been received in New Bedford, and it is evident from a superficial examination of the various provisions of the new order that the packet trade with the Cape Verde islands to that port has been dealt a staggering blow, and that eventually the little fleet of small schooners which plies between the islands and New Bedford will pass out of the passenger business entirely.

The vessels engaged in this business are mostly former fishing craft from this port, Boston, etc.

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The Senate Ratifies the Fishing Treaty.

Seven Questions to be Passed Upon by the

Hague Tribunal When it Meets for Arbitration

Again.

Subject Will not be

Taken Up For 14 Months.

Printed Case of Each

Side to be Delivered to

the Other Within Seven

Months From Ratification

of Treaty.

At last the long-standing dispute between the Gloucester fishermen and the Newfoundland government over the rights of American fishermen in colonial waters is in way of settlement.

The senate yesterday afternoon, after a very short discussion, ratified the treaty, which was negotiated on January 27, to refer the dispute to the arbitration of The Hague.

The agreement embraces seven questions that are to be passed upon by The Hague tribunal, which is to determine whether Great Britain without the consent of the United States, can make regulations as to hours, days or seasons when fish can be taken on the treaty coasts; the methods, means and implements to be used; whether these regulations are equitable as between the home fishermen and American fishermen or whether they give an unfair advantage to colonial fishermen over Americans.

The Question Involved.

The United States contends that the rights of American fishermen are not subject to limitations or restraints imposed by Great Britain, Canada or Newfoundland.

The second question for the court to determine is whether American fishermen have the right to employ as members of their fishing crews persons who are not Americans.

Question 3 is to determine whether American fishing vessels are required to enter and report at custom houses or to pay light or harbor dues.

Under question 4 the court is determine whether the right of American fishermen to enter certain bays and harbors is conditional upon their paying light, harbor and other dues.

Question 5 is to settle the three marine mile measurement.

Question 6 deals with the rights of American fishermen on the southern coast of Newfoundland, which extends from Cape Ray to Rameau islands, or on the western and northern coasts from Cape Ray to Quirpon is lands, or on the Magdalen islands.

The seventh question is to ascertain whether fishing vessels are entitled to commercial privileges accorded to American trading vessels.

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The remaining articles of the treaty relate to the method of procedure before the court.

Within seven months from the date of ratification of the agreement the printed case of each government and the evidence on which it relies, shall be delivered to the agent of the other. Within 15 days after that delivery the case and the evidence shall be delivered to the court. After the delivery of the case either side has four months to deliver a counter case. The court is required to meet within six months after the time has expired for delivery to the agents of the government of the case and to receive from both sides a printed argument showing the evidence upon which each side relies. The court shall, if possible, render its decision within two months after the arguments have been presented.

Not for 14 Months.

It will be seen from this that considerable time must elapse before a decision can be rendered. At the earliest it cannot be made before 14 months from the present time, and if either side should require more time it would doubtless be granted by mutual consent.

If after the award has been made, any new evidence should come to to light, either side can ask the court for a revision of the award. If the court grants a revision it can allow such time for further hearings and arguments as it deems necessary.

In ratifying the agreement the senate adopted a resolution, declaring as a part of the ratification, "that the senate understands that it is agreed by both parties that the treaty does not include any question as to the Bay of Fundy or the innocent passage of American fishing vessels through the gut of Canso, and that the respective views or contentions of the United States and Great Britain on either subject shall be in no wise prejudiced by anything in the present arbitration."

For Umpire on Fisheries.

Dr. Heinrich Lammasch, an eminent Austrian jurist and professor in the university of Vienna, has been proposed as umpire of the arbitration court to which it is intended to submit the Newfoundland fisheries questions.

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Today's Receipts.

Sch. Tacoma, Grand Bank, 40,000 lbs. halibut.
Sch. Kineo, Quero Bank, 22,000 lbs. halibut, 4000 lbs. salt cod.
Sch. Rose Standish, shore.
Sch. Ida M. Silva, shore.
Sch. Motor, shore.

Vessels Sailed.

Sch. Ramona, haddocking.
Sch. Emily Sears, haddocking.
Sch. Seaconnet, haddocking.
Sch. Clara G. Silva, haddocking.
Sch. Flavilla, haddocking.
Sch. Mertis H. Perry, haddocking.
Sch. Yankee, haddocking.
Sch. Motor, haddocking.
Sch. Effie M. Prior, haddocking.
Sch. Mattie D. Brundage, Georges.

Today's Fish Market.

Salt Georges cod, large, \$3.50; mediums, \$3.00.
Bank halibut, 11 cts. per lb. for white and 9 cts. for gray.
Salt pollock, \$1; salt haddock, \$1; salt hake, \$1.
Splitting prices for fresh fish, Western cod, large, \$1.65; medimus, \$1.37-1-2; Eastern cod, large \$1.65; medimus, \$1.37 1-2; cusk, \$1.60 for large, \$1 for medium and 50 cts. for snappers; haddock, 60 cts.; hake, 60 cts.; pollock, 60 cts.

Trawl bank cod, large, \$3.25; medimus, \$2.75; snappers, \$1.50.
Salt cusk, large, \$2.50; mediums, \$2; snappers, \$1.

Shore frozen herring, for bait, \$2.00 to \$2.50 per cwt.

Newfoundland frozen herring, for bait, \$2.50 to \$3.00 per cwt.

Boston Arrivals.

Sch. Valentinna, 1000 haddock, 4000 cod.
Sch. Emily Cooney, 5000 haddock, 500 cod.
Sch. Washake, 1000 haddock, 1500 cod.
Sch. Rayman, 28,000 haddock, 6000 cod, 7000 cusk.
Sch. Lizzie M. Stanley 40,000 haddock, 2000 cod.
Sch. Robert and Arthur, 25,000 haddock, 8000 cod.
Sch. Mary E. Cooney, 5000 haddock.
Sch. Conqueror, 50,000 haddock, 12,000 cod, 7000 pollock.
Haddock, \$2.50 to \$4.50 per cwt.; large cod, \$5 to \$7; market cod, \$3 to \$4; pollock, \$4.50.

Fishing Fleet Movements.

Capt. John Stream of sch. Kineo reports speaking schs. Margaret, Niagara and Paragon on Quero recently.

Sch. Boyd and Leeds is on Burnham's railways.

Sch. Newell B. Hawes is on Parkhurst's railways.

Arrived Today.

Barge Brookfield, Philadelphia, coal for Montgomery.

Pacific Fishery Notes.

A fishing business involving a fleet of half a dozen small fishing steamers, a fast steel steamer of the size and style of the Amur of the Canadian Pacific railway to collect fish from the stations to be established at Prince Rupert, Graham and Morris Bay Island and other points from the N. A. A. to the east coast of Vancouver Island, B. C., a fleet of five or six steam trawlers of the North Sea type and the expenditure of half a million dollars in equipment generally, is what is promised by the Canadian Pacific Trading & Development Co., with Robert Burton of London, England, at its head. If these plans materialize, Prince Rupert, B. C., should come to the front immediately as a fishing center.

The Alaska Codfish Co. of San Francisco in its recent report of codfish conditions, says:

"The sales on the home markets during the past year have averaged well in comparison with preceding years, and although we are shut out from all Atlantic and trans-Atlantic business, owing to the excessive supplies from the Atlantic fishing ports, this fact resulting in keeping the prices down, we will have no oversupply when we will be provided with new fish. The first of the new fish is expected about the first of March. The consumption of codfish is not materially changed with low prices, but the temper of some dealers changes when they find their output in danger from natural causes brought about through intelligent and modern methods as conducted by active business men."

I. M. Larsen, H. M. Peterson, J. O. Robinson, A. M. Anderson and P. M. Peterson have formed the Tacoma Fish Company with a capital of \$10,000, and filed articles of incorporation. The little schooner Active, now building at the Crawford & Reid yards, will be used by the new company in cod-fishing off the Alaskan coast.

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GOOD HALIBUT WEEK.

Six Fares Received Here, All But One Large Trips.

This has certainly been a halibut week at this port, for of the 10 fishing vessels that have arrived from off shore, six have been fresh halibut catchers, and the best of it is, all but one of them had fine fares. The halibut skippers seem to be much encouraged with the improvement in the situation so early in the season.

They all report that there is evidently quite a lot of halibut on the fishing grounds of Grand Bank, Quero Banks and the Gully and that had the weather not been so continuously bad they would have made larger catches and quicker trips even than they have. The price has been well sustained, which has been another source of gratification.

Today is to finish out the halibut week in good shape, for sch. Preceptor Capt. Fred Upshell, came in this morning, from the Gully with a fine fare, 30,000 pounds of halibut.

Provincial Fishing Notes.

According to the "Coast Guard," the talk at Clark's Harbor, N. S., favors the use of small schooners for the fall line fishing, instead of the cutter rigged boats, of registered tonnage, yet not full decked, which have proved of great service in the past. It is pointed out that these craft, with all their good qualities, are not so reliable in the uncertain weather of autumn and winter as those protected by a deck from the combers that break to drown the partly open boats.

Work on the G. C. Harris' new banker, which is on the stocks at Grand Bank, N. F., is progressing favorably and she will be ready for launching about the latter part of February or early in March. She will be about 90 tons, and from her lines it is hoped to make her a fast sailer.

Codfishing has been fairly good about the last week of Scaterie, N. S., and Louisburg and Eastern Harbor fishermen have made good catches. Last winter these people also caught several quintals of codfish. In the spring the fish are taken to Sydney, North Sydney and Glace Bay, where a profitable sale is made of them.

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**Bill Against Herring
Torching
Has Been Reported by
Committee on Fisheries
and Game.
Prospect of Lively Fight
as Being Locality Leg-
islation.**

The bill to prohibit the taking of herring in the waters in and about Lynn harbor by means of torches or other light, petitioned for by the Lynn board of health, has been favorably reported by the committee on fisheries and game. The report is unanimous, notwithstanding the tentative opposition of officials of Beverly, Salem and Gloucester.

The bill provides a penalty of not less than \$50 nor more than \$200, or by imprisonment for not less than six months nor more than 12 months, or both such fine and imprisonment.

There is every prospect of a lively fight over the bill when it is reached in the House for debate, as members from several of the shore cities and towns are opposed to a special act for any one locality affecting this class

of fishing. An attempt was made before the committee which heard the measure, to have it broadened to include Beverly harbor as well as Gloucester. This could not be done, however, as the petition it was found was not broad enough to permit the reporting of a general bill.

One of the Beverly officials feared that the passing of this proposed law would only result in sending the torch fishermen into Beverly and Salem harbors, and thus transfer the nuisance to that locality or even further to the north.

Representatives Barrett, Tolman and Haskell of Gloucester have interested themselves in the bill and will be prepared to take a stand against its passage unless it is amended and broadened in its scope. The question will be debated in the lower branch to which it was reported Thursday, sometime early the coming week.

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**First of Jacobs Vessels
Here.
Has Cargo of Frozen Her-
ring From Connaigre Bay
Newfoundland.
Will Proceed to Boston
and Enter Cargo at
That Port.**

The new British sch. Arginia, of Lunenburg, N. S., arrived at this port this forenoon, from Connaigre Bay, N. F., bound to Boston with a fare of frozen herring. This is one of the crafts chartered by Capt. Solomon Jacobs of this city and her arrival has been looked for during the past few days.

It is so rough where the craft is at anchor on the Pan Cake ground and blowing so hard that the boarding officer, Charles O'Brien, could not get alongside in the custom house boat Dremer. He went out around her, however, and her captain shouted that he was going to enter his cargo at Boston and should proceed there after the heavy wind and the threatening northwester were over, which means that she will be there ready for business on Tuesday morning.

This is the maiden trip of the vessel, which is a fine looking craft. Her captain shouted that he had had a very hard passage, being 14 days out now from Connaigre Bay meeting heavy weather about all the way and having to put in at Lunenburg one night for shelter. He said that the craft had 750 barrels of frozen herring of fine quality and 35 barrels of salt herring. Sch. Arginia, in which the herring were brought, is a new vessel, built the present year by Joseph McGill at Shelburne, N. S., for Capt. Maynard Culp, of Middle South, Lunenburg County. Her dimensions are 98 feet over all, 24 feet beam, and 9 feet, 8 inches hold. She is of semi-knockabout style, and was specially designed by McManus, of Boston, for salt banking in the summer and West Indies trade in the winter. She is a handsome craft, and her rig and outfit are of the most complete description.

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**Horse Mackerel a Glad-
iator.**

**Its Advent Causes Smal-
ler Fish to Decamp.**

**Unexpected Sea Deni-
zens Captured in Cape**

Cod Weirs.

Many strange fish come to the nets of the weirsmen of Cape Cod. The collection of the amateur photographer who summered at Provincetown last season would not be complete without a plate of some of them to show wondering friends on social winter evenings.

It chanced that on the gala day of the summer at Provincetown, when the New York Yacht Club, on cruise, was in port, two such great fish were landed. They were dead—put to death hours previously, with belaboring ax and stabbing knife, yet they were quivering spasmodically seven hours after the infliction of the last supposedly mortal stab.

Beautiful they were—bluish-black above, silvery gray, toning almost to white upon the belly parts. Over all the plump, mold-smooth and huge-muscled expanse of body there played fleeting colors, a veritable mother of pearl iridescence, impossible to describe.

"Four hundred pounders, each" they were, according to the off-hand estimate of the local old salt who named them for the summer folks' edification. They were indeed a handsome couple, although only medium-sized representatives of a marine clan (orecynus thynnus,) of which hundreds are annually taken at Provincetown in the big "catch alls," commonly termed weirs.

In a small way the horse mackerel is a gladiator. Prior to his advent the sand lance, the mackerel, the herring, pollock and dogfish make regular visitation in Cape Cod bay.

When the breaching "sea tiger," or horse mackerel, with great, goggle eyes staring stonily and lemon-hued rear-anal fins glittering goldlike in the shadow of its under body, comes rushing upon the scene, all minor species hurriedly decamp.

The horse mackerel, or its familiar, is common in the Mediterranean, where it is known as the tuna, or tunny. For centuries the flesh of the tuna has been highly esteemed by the Latin races. Packed in oil, or salted, it has since the days of the Phoenicians been a very widely known commodity in the Mediterranean trade.

The horse mackerel occurs in the west Atlantic as far north as the gulf of St. Lawrence. It puts in an appearance at Provincetown early in June customarily, remaining in the vicinity until about October.

When much of the fishing work there was performed by means of nets the horse mackerel was both

A Source of Revenue and a Pest

to the small boatmen; but the oil taken from it more than compensates for the loss resulting from its ravages upon nets.

One would suppose that the fishermen's nets would speedily be ruined by the creatures, but such is not the case. Upon striking a floating net the horse mackerel goes—bullet-like, straight through it (unlike the shark, which, rolling itself in the netting, tears the same enormously), making a clean, round hole, easy to repair.

Individuals weighing as much as 1500 pounds have, it is said, been taken. Specimens of that weight are not taken off Provincetown, however, the average specimens weighing, from 400 to 500 pounds, with an occasional 900 or 1000 pounder.

The average length is about eight feet.

Horse mackerel were seldom, if ever, used for food in this country until within a few years. At present quite all specimens taken in weirs are sent to city markets, where a ready sale, at a good price, is assured among immigrants from the south of Europe.

No horse mackerel need now be set adrift, as worthless, as was formerly the custom.

Usually the capture of a weir-imprisoned horse mackerel is not a matter of great difficulty. Once in a while, however, the great strength of an individual nearly prevails over the efforts of its jailers. For instance: In July, 1897, Capt. Henry J. Lewis, a skillful weir manipulator, found in his harbor trap a big horse mackerel exhausted and apparently dead upon the dried-in "lint" when the crew gathered in the netting. The disengaged end of the main throat halliards was made fast to the tail of the supposedly dead fish, the bight was loosely attached to the mainsheet traveler, and skipper Lewis and his helper straightway began to bail in herring.

All at once the stern of the boat settled. Down it went, suddenly, and water began to pour into the standing-room.

**The Horse Mackerel Had Regained
Consciousness**

and was making the fact known.

Mate James hurriedly unloosed the halliards, and the immense fish disappeared below the surface and renewed its fight for freedom.

As the fish scurried away the halliards tautened. The main gaff started aloft, drawn by the hoisting gear. The gaff end caught, held securely for a moment, then broke and up in a trice went the belying sail, with broken spar dangling.

For a moment all was confusion on the boat. The fish, a 900-pounder, in one of its rushes approached the boat's quarter. One of the crew, ax in hand, delivered a swinging blow at him, but the agile horse mackerel easily avoided it.

An instant later the strong wind struck full upon the bagging canvas and laid the boat over well upon her side. A capsizing seemed imminent. Correctly sizing up the situation, mate Manuel James seized a sharp knife and, with one strike, severed the halliards.

Immediately the horse mackerel, with all but a small portion of the main halliards, tied to its tail, vanished like a flash through the broadside netting of the weir, vanished for good. Lewis, owner thereof, gave vent to sundry explosive ejaculations.

Cape Cod weirs scoop in many unexpected water creatures. In July last a 40-foot-long (estimated) right whale entered O'Neil's head-of-harbor Provincetown floating trap. Annoyed a half-hour later by would-be captors, this huge animal, bearing within its mouth baleen worth, probably \$2000, with one rush burst through the heavy netting and went away to sea, leaving a badly torn weir behind.

In August a Baby Finback Whale, just out of leading strings, evidently, it being only 15 feet long, entered Blatchford's weir and was slain. The creature was exhibited under a tent upon the main beach.

The Lewis-James weir captured Oct. 6, a bone shark, 17 feet long. The skin of that rare creature was removed intact and is now being tanned, for mounting, by the purchaser, David C. Stull, known as the "Ambergris King."

This species (cetophinus maximus) a native of Arctic seas, is one of the largest of sharks. Sluggish of movement, the bone shark swims lazily at the surface, apparently indifferent to the approach of boats. Food found in its stomach comprises a red, pulpy mass, probably the roe of sea urchins. The teeth are small the Stull specimen hadn't the vestige of a tooth, being very young, and the gill-rakers (a sort of Galway whisker, worn inside, instead of outside, the throat) would indicate that it feeds at the surface, straining its food, as does the baleen-bearing whale.

A half dozen years ago a West Indian sea turtle, with a plump remora (sucking fish) adhering to its under-shell, was taken from the "Jim" Lewis weir.

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Very recently, on October 16, The Largest Lobster Known to Have Been Captured

in Provincetown harbor, was taken from the eastern weir. Its weight was 23 pounds, and its length, tail end to outer end of forward extended claws, was 42 inches. This giant crustacean, carefully mounted, now graces Mr. Stull's museum of marine curios.

Recent sizable-lot arrivals of fishes once deemed worthless at Provincetown, include the shadine, scientifically known as *etrumus sadinia*, a species which occurs as far south as the gulf of Mexico, but is most commonly found in Florida and Carolina waters, and the species variously called saury, billfish, skipper and skip-jack, the latter because of its surface-bounding habit when pursued by the horse mackerel and bonito.

The shadine appeared at Provincetown for the first time, and in large numbers, in October. They are very palatable.

The saury, or billfish (*scomberesox sauris*), is found in all parts of the North Atlantic. Cod feed voraciously upon them. This long-beaked, slender-bodied species, feeds upon soft, pelagic animals, its teeth being very minute.

This species, formerly considered worthless in Provincetown, has suddenly leaped into favor. All caught there are eagerly sought by New York and Boston commission men.

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Fish From the Pacific Coast.

Specimens That vie in
Color With the Birds and
Butterflies.

Interesting Review of
Recent Trip of Naturalist
Denton.

There are as good fish in the sea as ever were caught according to the experience of Sherman F. Denton, one of the widely known group of Wellesley naturalists. Mr. Denton's latest fishing trip has been from San Francisco down the Monterey and Los Angeles coast to the Santa Catalina Island and its adjacent waters; and he is now closely occupied at his home in Wellesley Farms with putting his newly acquired specimens into condition for permanent preservation.

By far the largest number of specimens—specimens which vie in color with their remote kinfolk, the birds and butterflies—come from the Santa Catalina region. On this island, which is in reality an extremely rough and precipitous country—says Dr. Denton—I found a comfortable hotel, and a den to work in after day's fish gathering was done. Most of the local fishermen are Spaniards or Italians, with a few Portuguese. Practically all of them speak English, however, and Mr. Denton describes them as a good-natured lot of men, who volunteered both help and information when they found out his object.

Santa Catalina has great popularity because of its game-fishing. One of the varieties especially sought is the yellow fish, member of the mackerel family. Another variety, quite as good game and taken here in great numbers, is the tuna—so-called on the California coast; in the Mediterranean, the fish in question is known as the tunny, and on our own coast as the horse-mackerel. "People go west at great trouble and expense, to catch the tuna," comments Mr. Denton, "when they could catch the horse-mackerel, a much larger fish, right off Martha's Vineyard." A third exceedingly numerous family on the Pacific coast is that of the Sebastodes, or rock-fish, of which there are probably a dozen varieties. Its color varies from bright red to yellow-brown or pink. One variety is named by the fishermen "chilly pepper," meaning red pepper. The catching of these rock-fish has been reduced to a science. Long, heavy lines bearing perhaps a thousand baited hooks are thrown out, allowed to remain a considerable time, then drawn in by gasoline power; and the result usually means a good day's catch at one hauling. A species of Sebastodes,

on our coast, is commonly called "rose-fish," and is brought to the Boston T wharf in the winter season.

The California coast-waters abound in sculpins—the *Scorpana* family. One deep-sea kind, most frequently brought up with a heavy catch, is slimmer than our well known sculpin, has eccentric coloring and an unusually high dorsal fin. "Most sculpins are good to eat," says Mr. Denton; "the feeling against them is chiefly prejudice." Flounders, also in great abundance, inhabit the western waters; a meaty variety, the rough-jacket, is especially desirable for food. Related to our cunner is the sheep's-head fish, one of the Trechope family, three or four pounds in weight. Of the mackerel family there are many varieties; and the scad, which is very like our mackerel, is taken in thousands, salted, packed into kegs and barrels and shipped to the mining camps. The white sea-bass, *Cynoscion nobilis*, is one of the finest food fish, averaging fifty pounds in weight. It is a handsome fish, iridescent-silver in coloring, with opal shadings.

A group of small fish please by their uniqueness of name and of markings. The kelp-fish is a crafty little creature, beautiful as a piece of sea-moss, dwelling among the kelp and prone to eat the bait from the fish-lines before the lines get down to the larger fish. The rat-fish, with its long slim nose and its grayish-brown color, is indeed suggestively named. The chimera, also known as the rabbit-fish, presents the incongruity of extremely awkward shape and extremely beautiful colorings.

Eels abound. Three members of this large family are named by Mr. Denton as having especially noteworthy characteristics. The slime-eel, *Myxine glutinosa*, about a foot long, is one of the lowest forms of fish life. Its eye is merely a dull spot, capable only of distinguishing light and shade. It is a parasitic creature, living wholly upon other fish and eating the meat to the very verge of the skin and bones. It is said that the slime-eel destroys more fish than the fisherman himself is able to save for food. Second in the eel group mentioned by Mr. Denton is the moray, which lives among the rocks near shore, and is very powerful; it often grows to five feet in length. One, caught by Mr. Denton on a line, resisted with such energy that "it took 25 minutes of continuous hard-pulling to draw him in." A third variety is the wolf-eel, about six feet long, with a round, thick body, very muscular, and with a cruel-looking, big-toothed mouth, "the most fearful and terrible fish I ever saw," says Mr. Denton. He tells the story of having come across a group of soldiers who had taken a wolf-eel while out mussel-gathering, one of whom said that when he tried to hold the eel down in the boat, the eel bit the oar, an oak blade, right in two. This identical eel is now in the Agassiz Museum at Cambridge.

There is a spiny-shark on the California coast which corresponds to our dogfish, being, however, of a light chocolate-brown color with black polka-dot markings, a rather agreeable

combination. The California blue-shark grows very large, and is dangerous to man. The basking-sharks, which come in at Monterey, are extremely large; one specimen which Mr. Denton saw was 22 feet long and three feet in diameter, and another 35 feet long and over 6 feet in diameter. Many sea-lions swim around Santa Catalina, and one of the pastimes of the fishermen is to feed to these sea-lions a long-finned variety of the tuna fish, of scarcely any value for market purposes.

Among the trout family in California is a new golden trout, named for President Roosevelt, *Salmo Roosevelti* Evermann, found in the Volcano Creek on the Sierra Mountains, a tributary to the Kern River, and eight or nine hundred feet above sea-level. This is the handsomest of all the western trout, says Mr. Denton, and the specimens which he has brought back justify the opinion—for the Roosevelt trout has a brilliant, salmon-gold coloring, with soft, distinctive pencillings of black. Almost as beautiful is the rainbow trout, *Salmo iridens*, which has of late been very largely introduced by the fish commissioners into our eastern streams.

Mr. Denton—who always makes a color-sketch of desirable specimens as soon as they come out of the water, because fish colors vanish so quickly—has an interesting group of three sketches illustrative of the rapid changes which take place in the king salmon at breeding time. The first sketch shows the salmon, smooth-skinned and in excellent condition, as he starts from the sea up the Columbia or some other river. The second, made when he is half way along on his journey, portrays him as spotted, stouter, and less shapely. And the third, last scene of all, represents him as reduced to a mere fighting machine, thin, gaunt, distorted. It is claimed that all the king salmon die at the journey's end;

they have eaten nothing for three months, and are themselves not fit for food.

From Alaska to the Monterey region, along the coast, lives a fish about a foot and a half long, with the large name of *Anoplopoma fimbria*, a member of the smelt family, and locally known as the candlefish. This is taken in great quantities by the Indians, dried, and when winter comes, a strip of rush wick or of cypress-tree bark is drawn through the body. The tail of the fish is stuck into sand, the wick in the head end lighted, and the extemporized candle, because of the goodly amount of oil in the fish, burns often for several hours.

Along the California coast there are over a hundred varieties of good food fish, says Mr. Denton, probably more than double what we have on our New England coast. Californians have, for instance, all the salmon and all the rock fishes, where we have only one of each. Fish is comparatively cheap there. For example, an excellent fish, the green perch, enough for a large family, can be bought for five cents. Fishing itself is made almost a fine art. Launches and even larger boats are frequently provided with plate-glass bottom sections through which one may look down from a hundred to three hundred feet into the ocean and see myriads of fish at a time. The little gold fish—as it is usually called, although it is not a gold fish at all—*Hypsypops rubicundus*, with its bright orange-red and gold coloring, produces a most wonderful brilliant effect as seen through these glass under-foot windows.

With each fish to be preserved, Mr. Denton goes through the same process. First, he makes the rapid water-color sketch with especial care for color rather than shape. Next he removes the fish's skin, treats it with various chemicals, and draws it on over a wooden shape exactly conforming to its body size, and then, at his leisure, retouches the skin with his watercolor sketch as copy. Formerly, when first starting out in the work of supplying fish models to state commissions and museums all over the country, Mr. Denton had the specimens sent to him frozen. But he has found it more satisfactory to go directly to the particular locality and secure his own specimens. He has just sent off a large number of them to the Carnegie Institute and another collection to the Brooklyn Museum. He is at present working upon a group for the Vassar College science-rooms, and his next undertaking will be to prepare a collection of Alaskan fish chiefly, for the Washington State Exhibition to be held next summer. Mr. Denton expects to stay at home this winter, but he is contemplating a journey to the south seas in the near future.

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Fishing Facts and Fancies.

Clark's Harbor, N. S., is to have a cold storage plant and glue works. The plant will comprise four buildings, two of which will be over 100 feet long and several stories high.

The seas yield Japan a value of \$50,000,000 a year in aquatic animals and marine products. Ten per cent. (5,000,000) of the population depend on the seas for their living. Fishery products exported amount to about \$10,000,000 a year in value.

According to the London Fish Trades Gazette, Plymouth Barbican now tells the story of sad distress among local fishermen. Driftmen especially are poverty stricken, and it has been said that a time of greater need was never known. The Plymouth Seamen's Bethel Committee has started free breakfasts for fishermen's children, and it is probable that a public relief fund will be opened.

Cold seems to have no effect on several varieties of fish. Perch will live in ponds frozen all over in winter; and the whitefish of Canada have been frozen so stiff that they have been brittle enough to break, yet showed signs of life when properly thawed out.

The St. John's, N. E., Trade Review says: "There is no use mincing matters; the present deplorable condition of our lobster fishery is due entirely to the cowardice of the government, who are afraid to carry out the law. They have a regulation calling for a defined length of lobster for packing, but they know that this law is broken every day in the year; but, fearing to lose the fisherman's vote, they will not prosecute. Thus it goes on year after year; the available lobsters becoming smaller and smaller, until at present it sometimes takes the meat of thirty or forty fish to fill a one-pound can."

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MEXICO'S SHRIMP FISHERY.

By Primitive Methods 150 Tons Are Caught at Tampico Each Year.

At the village of Pueblo Viejo, situated by the laguna de Pueblo Viejo, about four miles from Tampico, is centered one of the oldest and most interesting of Mexican fishing industries. Here from March to December, the natives gather the camarones or shrimp, which abound in the brackish waters of the lake, and in a primitive manner cook, dry, and prepare them for market.

These famous fishing grounds comprise a group of beds of the narrow water passages of the laguna lying between the numerous small islands and adjacent to the village. They are directly under the Mexican federal authorities, and contain 92 pesqueros, or traplike inclosures, that are being operated. These inclosures are V shaped and constructed of bamboo poles, well driven in, and between which is interwoven a mat, composed of palm leaves, extending from the bottom to the surface of the water, and to within a few feet of the shore at either end.

The shrimp are caught in the traps at the out going tide, when it is but a simple matter of gathering with a dip net, and conveying them by dug out canoes to the village. On March 1 each year the names of all applicants for concessions are brought before the collector of the port of Tampico, who directs the lottery held at the customhouse for the purpose of designating the locations to be given out. As many numbers as there are applicants are made out and placed into a revolving receptacle, and the pesqueros allotted to the fishermen according to the different numbers, and the concession is good for one year, or until the next drawing takes place.

As quickly after gathering as practicable the shrimp are carried to the cooking sheds and placed, two bushels at a time, in a large copper kettle wherein, over a primitive Mexican oven, they are boiled in a solution composed of eight parts of water and six parts of salt for a period of 15 minutes.

After removal they are spread over a large cemented inclosure, exposed to the sun, and allowed to dry for half a day. The remaining water in the kettle is boiled away and the salt recovered for future use.

There are gathered and prepared for shipment 150 tons of shrimps annually, valued at about \$20,000, most of which are consumed in the home markets, although an effort is now being made to introduce them in the United States.—Consular Reports.

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MORE FINE STOCKS

Fresh Fish Fleet Benefitted by Good Fares and Prices.

Some of the fleet have been placing fine stocks to their credit the past few days, the fine prices paid and good fares secured combining to that end.

Sch. Thomas S. Gorton, Capt. William H. Thomas, stocked \$2345 on her quick haddock trip at Boston Thursday, the crew sharing \$62. On her last three trips, the Gorton has stocked \$5200.

Sch. Vanessa, Capt. Val O'Neil, which arrived at T wharf, Thursday, stocked \$1900 on her haddock trip.

Sch. Benjamin A. Smith, Capt. James Goodwin, stocked \$1900 as the result of her short haddock trip, landed here Thursday.

Sch. Fannie E. Prescott, Capt. Thomas Downey, stocked \$1180 on her haddock trip at Boston Wednesday and sch. Lillian, Capt. C. Clarence Malone, there the same day, stocked \$1100.

Sch. Conqueror, Capt. Robertson Giffin, which was also at Boston Thursday, stocked \$1800 on her large fare.

Schs. Lizzie M. Stanley and Robert and Arthur at Boston yesterday, will both make good stocks and sch. John Hays Hammond, here today with a big fare, will also get a fine return for her catch.

Sch. Senator, Capt. George Marr, stocked \$2473.98 as the result of her recent halibut trip, the crew sharing \$55.90.

Sch. Kineo, Capt. John G. Stream, stocked \$2200 as the result of her recent halibut trip, the crew sharing \$54.06.

Sch. Tacoma, Capt. Adelbert Nickerson, stocked \$3570 on her halibut trip of yesterday, the crew sharing \$84.60.

Sch. Preceptor, Capt. Fred Upshall which arrived today with a halibut fare, will make a fine stock and share.

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BOSTON FISH PRICES HIGH.

Scarcity of Fish and Holiday Caused Boom.

There were lively scenes in the Fishing Exchange at T wharf, Boston, yesterday morning, while the bidding was going on, as every one was anxious to get some of the fish, and the captains held off for the highest possible bid.

With a prospect of good business today, Monday being a holiday, and very little chance of much fish coming in the afternoon or this morning, the 150,000 pounds of ground fish brought to T wharf on the seven vessels that arrived since business closed Thursday were quickly disposed of.

The dealers, relying upon the weather reports brought by the captains of incoming fishermen and from shore places along the coast, can see very little prospect of many of the shore fishermen setting their trawls, or getting much fish even if they are venturesome enough to do so. They expect to have to fill most of their usual Monday orders today, and were anxious yesterday morning to get what fish they could in advance. For this reason prices went up to a high figure for Friday.

The captains of the four shore fishermen who were at the wharf had made only one set of their trawls, and had taken only a small quantity of fish, but the high prices they received made the risk the men had taken profitable.

Contrary to expectations, the shore market boats managed to get a set yesterday. Some of them got practically nothing, while others hauled back 5000 or 6000 pounds. All made short sets, so they must have struck quite a spot of fish. Some of the fleet which set had had one set the day before, so there were quite a number of nice trips at T wharf this morning.

The T wharf dealers did not look for the boats to set yesterday and paid fancy prices for the off shore fares in. This morning however, they found 19 of the market fleet waiting for them, with about 154,000 pounds of new fish waiting for them.

Despite the fact that it is Saturday and that Monday will be a holiday, they stood up in great shape and paid high prices, so high that some of the skippers rubbed their eyes and wondered if they had not mistaken Saturday for Monday or Tuesday. Haddock sold readily at \$4 and cod brought from \$3 to \$6, with from \$3 to \$5 for hake, \$3 for cusk and \$4 for pollock.

Schs. Manomet, Galatea, Ethel B. Penney, Warren M. Goodspeed, Dorothy, Seaconnet and Athena each have over 10,000 pounds and will make nice trips.

Most of the boats, which did not strike any fish yesterday put in here for harbor, so that the bulk of the market fleet is tied up here and at Boston today.

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Lost 23 Tubs of Trawl.

Sch. Raymah, Capt. Felix Hogan, which arrived at T wharf yesterday had hard luck this time out, as she lost 23 tubs of trawl. The gear had been set and it came on to blow so that the dories could not go after it, and when they did get on it two days after, not a hook was to be found.

Good Trip.

Sch. John Hays Hammond, Capt. Horace Wilde, arrived at this port this morning, having been gone only a week, with a fine fare of 70,000 pounds of fresh fish, mostly haddock. Capt. Wilde reports very heavy wind and rough sea off here last night.

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Mackerel Imports.

The imports of salt mackerel at Boston to date of the catch of 1908, are 40,706 barrels against 22,916 barrels of the catch of 1907, at this time last year.

Halibut Not Sold.

The halibut fare of sch. Preceptor was not sold this morning and will hold over to Monday, and perhaps Tuesday, before the vessel hauls in to take out.

Today's Arrivals.

Sch. Preceptor, the Gully, 30,000 lbs. halibut, 4000 lbs. salt cod.

Sch. John Hays Hammond, Le Have bank, 70,000 lbs. fresh fish.

Br. sch. Arginia, Connaigre Bay, N. F., (bound for Boston), 750 bbls. frozen herring, 35 bbls. salt herring.

Vessels Sailed.

Sch. Mooween, halibuting.

Today's Fish Market.

Salt Georges cod, large, \$3.50; mediums, \$3.00.

Bank halibut, 11 cts. per lb. for white and 9 cts. for gray.

Salt pollock, \$1; salt haddock, \$1; salt hake, \$1.

Splitting prices for fresh fish, Western cod, large \$1.65; medium, \$1.37-1-2; Eastern cod, large \$1.65; medium, \$1.37-1-2; cusk, \$1.60 for large, \$1 for medium and 50 cts. for snappers; haddock, 60 cts.; hake, 60 cts.; pollock, 60 cts.

Trawl bank cod, large, \$3.25; medium, \$2.75; snappers, \$1.50.

Salt cusk, large, \$2.50; mediums, \$2; snappers, \$1.

Shore frozen herring, for bait, \$2.00 to \$2.50 per cwt.

Newfoundland frozen herring, for bait, \$2.50 to \$3.00 per cwt.

Boston Arrivals.

Sch. Little Fannie, 2000 haddock, 3500 cod.

Sch. Elva L. Spurling, 5000 cod.

Sch. Joseph H. Cromwell, 2000 haddock, 500 cod.

Sch. Galatea, 7000 haddock, 500 cod, 5000 hake.

Sch. Ethel B. Penney, 11,000 haddock, 1000 cod, 1000 hake.

Sch. Genesta, 7000 haddock, 200 cod, 200 hake.

Sch. Victor and Ethan, 4000 haddock, 1000 cod.

Sch. Mary Emerson, 3000 cod.

Sch. Minerva, 2000 haddock, 1000 cod.

Sch. Nettie, 2000 cod.

Sch. Warren M. Goodspeed, 7000 haddock, 3000 cod, 1000 hake, 2000 pollock.

Sch. Dorothy, 6000 haddock, 2000 cod, 2000 hake, 500 cusk, 500 pollock.

Sch. Yankee, 2500 haddock, 8000 cod, 3000 pollock.

Sch. Seaconnet, 12,000 haddock, 500 cod, 500 hake.

Sch. Mary B. Greer, 4000 haddock, 400 cod, 1000 hake.

Sch. Hortense, 4500 haddock, 2000 cod, 600 hake 1000 pollock.

Sch. Matiana, 4000 haddock, 3000 cod, 800 hake.

Sch. Athena, 5000 haddock, 2500 cod, 5000 hake.

Sch. Manomet, 5000 haddock, 2000 cod, 3000 hake.

Haddock, \$4.00 per cwt.; large cod \$5 to \$6; market cod, \$3 to \$3.50; hake, \$3 to \$5; pollock, \$4; cusk, \$3.

Feb'y 23.

NEAR COLLISION.

Sch. Mary T. Fallon Tore Mainsail of Sch. Matiana.

A close call from a bad collision and loss of life was reported by Capt. Chetwynd of the knockabout market fishing sch. Matiana, at T wharf, Boston, Saturday. Good seamanship carried her through safely, with a torn mainsail as the only damage.

The Matiana was about eight miles off Thatcher's island at 10 o'clock Thursday night, jogging about in a good wind, and the sch. Mary T. Fallon was jogging around in the same vicinity. The Matiana tacked to port, when it was apparently safe, and the man at the wheel was surprised to see the other schooner making straight for his vessel with every prospect of striking her amidships. He threw his wheel up hard, and veered his vessel off sufficiently to avoid a collision, but the bowsprit of the Fallon caught the mainsail of the Matiana, tearing it through so that it had to be reefed to be serviceable.